

KISHIMOTO *et al.*, SN 09/842,001
31 July 2006 Amendment
Responsive to 17 May 2006 Office Action

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REMARKS

This Amendment is responsive to the Office Action identified above, and is further responsive in any other manner indicated below.

STATEMENT OF SUBSTANCE

The 31 July 2006 telephonic examiner interview (by and between Examiner Kristie D. SHINGLES and the undersigned) is respectfully noted; in such interview, it was agreed by the Examiner that if the present RCE was filed with claim amendments, then the Examiner would not make a first action final. The Examiner is thanked for such interview, and for allowing Applicant to avoid the procedural/administrative delays associated with an after-final amendment and advisory action process.

REQUEST FOR EXAMINER INTERVIEW PRIOR TO FIRST ACTION AND NOTIFICATION OF INTENT TO FILE PRELIMINARY AMENDMENT

An examiner interview prior to first Office Action in this continuing or substitute application is respectfully requested. As stated in MPEP "713.02, "A request for an interview prior to first Office Action is ordinarily granted in continuing or substitute applications." Similarly, as stated in MPEP '706.07(b), "A request for an interview prior to first action on a continuing or substitute application should ordinarily be granted." After such examiner interview, Applicant intends to file a Preliminary Amendment for adjusting/submitting claims which should be examined in the application. The Examiner is respectfully requested to contact the attorney indicated

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on this paper at the local Washington, D.C. area telephone number of 703/312-6600 for the purpose of scheduling an examiner interview. The Examiner is thanked in advance for such considerations. Contact will also be attempted by the undersigned attorneys to schedule an Examiner Interview.

PENDING CLAIMS

Claims 7-20 were pending in the application, under consideration and subject to examination at the time of the final Office Action. Unrelated to any prior art, scope or rejection, appropriate claims have been amended, added or deleted (without prejudice or disclaimer of any scope or subject matter) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, the amendments to the claims are unrelated to any prior art or scope adjustment, and are simply clarified claims in which Applicant is presently interested. At entry of this paper, Claims 7-20 remain pending in the application for consideration and examination.

ALL REJECTIONS UNDER 35 USC § 103 - TRAVERSED

All 35 USC rejections are respectfully traversed. Such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by

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reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

With regard to §103, attention is directed to the decision *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988), wherein the Court pointed out that the PTO has the burden under §103 to establish a *prima facie* case of obviousness. Whether a particular combination might be "obvious to try" is not a legitimate test of patentability, and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination, or by hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Applicant's disclosed and claimed invention is directed toward storage operating control system arrangements which include two alternate paths into an external storage device such that the arrangement can take advantage of both "In-Band" (FIG. 2) and "Out-Of-Band" (FIG. 3) methods. Within the external storage device 108 (example embodiment FIG. 1), there are storage data 105 and storage operating data 107 (or configuration information; independent Claim 14), as well as a service processor 106 for operating said storage operating data. The storage operating data 107 (or configuration information) is (in part) for managing the volume configuration and/or volume movement of said storage data.

As a first ("in-band") path, a host computer 101 is afforded fast access to storage data 105 by using a first (e.g., fibre channel) connection 103 to directly access the storage data from the external storage device 108. Independent claim 7, for example, recites "wherein said host computer commands reads/writes of

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said storage data from/to said external storage device through said first connection."

The first ("in-band") connection is advantageous, in that commanding of reads/writes through the fibre channel allows the speed of the direct fibre channel connection to be used to request and conduct almost instantaneous reads/writes. Secondly, it is advantageous in that it allows the host computer the ability to continue requesting/conducting reads/writes through the first connection even when the third connection (described ahead) is interrupted by switch interruption (described ahead).

Continuing discussions, as a second ("out-of-band") path, the host computer 101 is afforded access to storage operating data 107 (or configuration information) using combination of a second (e.g., Java (RMI)/TCP/IP) connection 104, a storage operating server 113 and a third (e.g., Java (RMI)/TCP/IP) connection (associated with FIG. 1 switch 116). Independent claim 7, for example, recites "wherein said host computer does not read/write said storage operating data directly from/to said external storage device, and instead executes an application program associated with said storage operating data server program so as to read/write said storage operating data indirectly from/to said external storage device through said storage management server and said third connection in order to manage the volume configuration and/or volume movement of said storage data."

The combination of second/third connection and storage operating server is advantageous in at least two regards. First, it allows a host application 102 to manipulate the storage operating data 107, even in the event that the host computer

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101 is subsequently shut off. That is, delayed commands (see blocks 401, 402; FIG. 4) can be forwarded to and subsequently executed by the storage operating server. Thus, the host computer 101 is not required to remain on during the storage operating data manipulation, thus resulting in convenience and time/power savings. Accordingly, independent claim 7 (for example) recites, "wherein said storage management server is adapted to acknowledge said volume configuration and/or volume movement operation back to said host computer before said volume configuration and/or volume movement operation has completed, so as to enable turn-off of said host computer during at least a portion of said volume configuration and/or volume movement operation".

As a second advantage, by utilizing the storage operating server 113 as an intermediary, the storage operating server is the component which can be customized/specialized with programs appropriate to effect manipulation of the storage operating data. Thus, the host computer 101 is relieved of containing the customized/specialized programs, and thus can be produced at lower cost.

Accordingly, it can be seen that Applicant's disclosed and claimed invention contains two separate control paths, albeit each path being for a differing purpose. That is, Applicant's first ("in-band") path is for commanding reads/writes to the external storage device, and Applicant's second ("out-of-band") path is to read/write the storage operating data from/to the external storage device.

Turning now to rebuttal of the applied art, Jesionowski's FIG. 1 appears to disclose an arrangement having two major paths to its data storage library 10, i.e., paths 66-68 (together with switch 50 and connection 59) and paths 46-48. Jesionowski may, at first glance, appear to be somewhat similar to Applicant's

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disclosed and claimed invention. However, Jesionowski fails as a primary reference, in that, at minimum, Jesionowski fails to disclose or suggest an arrangement, "wherein said host computer commands reads/writes of said storage data from/to said external storage device through said first connection." More particularly, a thorough reading and understanding of Jesionowski reveals that only Jesionowski's paths 66-68 (together with switch 50 and connection 59) represent a control signal branch or path, and paths 46-48 are "data paths" which carry only data. Jesionowski's column 4, lines 19-22, specifically states, "...buses 176-178 are provided and are combined control and data paths serving as both control paths 66-68 and data paths 46-48." As a relevant example, a read/write command would be delivered along control paths 66-68, while read/write data would be delivered along data paths 46-48. Thus, it can be seen that Jesionowski is not at all directed to, or concerned with, providing two types of separate control paths for two differing reasons.

In fact, as further evidence, it is respectfully noted that Jesionowski's column 4, lines 27-33, state that, in one embodiment, it is desired to have the cabling on a common bus (e.g., bus 46, 66, 176). Clearly, such embodiment is not at all concerned with separate control paths.

In terms of distinguishing claim features/limitations, the above-discussed claim limitations distinguish Applicant's claims over the applied art. Especially the limitations "wherein said storage management server is adapted to acknowledge said volume configuration and/or volume movement operation back to said host computer before said volume configuration and/or volume movement operation has completed, so as to enable turn-off of said host

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computer during at least a portion of said volume configuration and/or volume movement operation"

That is, neither of the primary Jesionowski nor the secondary Chong, Jr. reference (alone or in combination) teaches or suggests any type of arrangement with acknowledges a volume configuration or volume movement operation before the operation has been completed, and neither reference (alone or in combination) teaches or suggests any type of arrangement which enables turn-off of a host computer during at least a portion of the volume configuration or volume movement operation.

None of the other applied references cure such major deficiencies mentioned above with respect to the primary and secondary references. Accordingly, no combination of the applied references would have disclosed or suggested Applicant's invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art would not support a §103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such § 103 rejections, and express written allowance of all of the rejected claims, are respectfully requested.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer of any scope or subject matter. Further, Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed

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limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, *i.e.*, Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

EXAMINER INVITED TO TELEPHONE

The Examiner is invited to telephone the undersigned at the local D.C. area number 703-312-6600, to discuss an Examiner's Amendment or other suggested action for accelerating prosecution and moving the present application to allowance.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

To whatever other extent is actually necessary and appropriate, Applicant respectfully petitions the Commissioner for an extension of time under 37 CFR §1.136. No additional claims fees are required for entry of this paper.

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Please charge any actual fee deficiency for entry of this paper to ATS&K

Deposit Account No. 01-2135 (as Case No. 520.40043X00).

Respectfully submitted,



Paul J. Skwierawski
Registration No. 32,173
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 North Seventeenth Street, Suite 1800
Arlington, Virginia 22209-3801, USA
Telephone 703-312-6600
Facsimile 703-312-6666